

**Amendment to the Drawings:**

The attached sheet of drawings includes changes to Figs. 6, 7, 10, 11, and 13. The above Figures have been enlarged such that all characters are at least 1/8 of an inch in height.

Attachment: Replacement sheets

## REMARKS

Claims 7-26 and 29-30 are pending in this application. Claims 27 and 28 have been cancelled. Claims 7, 10, 13, -15, 17-18, and 21 have been amended. No new matter has been added by virtue of this amendment to the claims. The Examiner objected to Figs. 1-14 because the numbers, letters and reference characters must be at least 1/8 of an inch in height. The undersigned carefully measured the characters and found that only the amended sheets had characters that did not comply with the rules. Therefore, Applicants are submitting substitute sheets for those. New drawing sheets for Figs. 6, 7, 10, 11, and 13 are being provided. For the reasons below, Applicant respectfully requests entry of the amendment and reconsideration of the pending claims.

## Rejections under 35 USC §112

In the Office Action, the Examiner rejected claims 7-28 under 35 U.S.C. 112 as failing to comply with the written description requirement. Specifically, the Examiner rejected claim 7 for use of the term "configurable threshold." In order to advance prosecution, Applicant has amended the claims to read "threshold" instead of threshold, although those terms are believed to be synonymous in this context. Further, claim 7 has been amended to recite that the step of extracting unique concepts comprises recognizing the identified groups of related mutually dependent relationships in which a statistical characteristic exceed a threshold of the set of related mutually dependent relationships. Written description support is found at page 3, lines 15 and lines 24-25 and page 5, lines 1-3.

Moreover, in claim 21 the threshold is of a frequency of mutually dependent relationships. The specification provides that statistical information (characteristics)

includes frequency distribution. See page 8, lines 1-4. Therefore, claim 21 complies with the written description requirement. New claims 29 and 30 find support at the same locations as claims 7 and 21.

Claim 21 was rejected as indefinite. Therefore, claim 21 has been amended so that the preamble is consistent with the body of the claim.

### **Rejections under 35 USC §103**

In the Office Action, the Examiner rejected claims 7-28 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,857,179, issued to Vaithyanathan (hereafter "Vaithyanathan") in view of over U.S. Patent No. 6,006,221, issued to Liddy (hereafter "Liddy").

In response to the prior office action Applicants point out how several elements are neither taught nor suggested by Vaithyanathan nor Liddy. In addition, claim 7 requires extracting mutually dependent relationships and extracting unique concepts. Neither Vaithyanathan nor Liddy teach these elements.

The Examiner concedes that Vaithyanathan does not disclose extracting unique concepts but contends that Liddy discloses this feature. However, Liddy does not teach or suggest extracting unique concepts. The parts of Liddy cited (col. 12, lines 6-7 or col. 3, lines 25-28) have nothing to do with extracting unique concepts from among a group of mutually related concepts in which a statistical characteristic (e.g., frequency) threshold is exceeded.

Assuming *arguendo*, that Liddy included a teaching of extracting unique concepts (which it does not) then merely finding the elements of a claimed invention in various items of prior art does not establish obviousness. There must be evidence of a teaching, suggestion, or motivation to combine the prior art. The case law makes clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.

Cir. 1999). Those skilled in the art would not have combined Vaithyanathan and Liddy because those references are aiming at completely different objectives from the objective of the claimed inventions. Vaithyanathan and Liddy try to identify similar documents for clustering and information retrieval, whereas the claimed invention tries to identify valuable relationships (e.g., mutually dependent relationships) among concepts instead of identifying similar concepts or documents.

In order to achieve their objectives, their techniques utilize a feature among terms in documents, which is ... terms that represent similar concepts tend to have the similar distribution of terms (or concepts) that are associated with the term within the same document. For example, "notebook PC" and "portable PC" are both associated with similar terms (or concepts) such as "software," "handy," "carry," "LCD," and so on with in textual data. Thus, the similarity of the distribution of such associated terms (or concepts) enables their techniques to identify the similarity of "notebook PC" and "portable PC." Such distribution may be represented as a fixed-length vector based on a set of subject content categories and subcategories even across languages in case of Liddy or M dimensional vector, where M represents the number of terms in Vaithyanathan.

In Vaithyanathan, documents with the similar distribution of terms are basically considered to have the similar contents (although various techniques such as reduction of dimensionality are applied to improve the method) and thus classified into the same cluster. And differences in distribution of terms compared to documents in the different clusters are used to identify appropriate labels of each cluster. In Liddy, retrieved documents can be in other language, as far as the retrieved documents are associated with the similar distribution of language-independent conceptual representations.

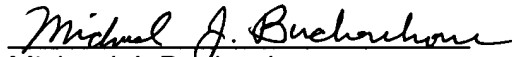
The claimed invention identifies valuable relationships among concepts (e.g., mutually related relationships) in extracting unique concepts. For example, in customer contact records at a PC help center, reports on various types of portable PCs basically contain the similar distribution of terms (or concepts) such as "slow" "error," "display problem." However, if one specific type of portable PC is strongly associated with the

term "slow," it may indicate that the specific type of portable PC actually has a performance problem. Thus, the claimed invention is based on an assumption that distribution of associated terms for the similar concept may be different and capturing such irregularity may lead to some valuable knowledge in practice, whereas such irregularity will cause noise (inaccurate results) for applications based on Vaithyanathan patent and Liddy patent.

Claims 2-20 are dependent on claim 1 and thus would not have been obvious for the same reasons. Claim 21 is similar to claim 1 except that the statistical characteristic is frequency in claim 21. Therefore, claim 21 and its dependent claims would not have been obvious for the same reasons as claim 1. New claims 29 and 30 also include a limitation of extracting a unique concept and would not have been obvious for the same reasons as claim 1.

For the foregoing reasons, Applicant respectfully requests entry of the amendment and allowance of the pending claims.

Respectfully submitted,

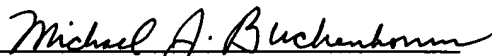
  
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### **Certificate of First-Class Mail Mailing**

I hereby certify that this Amendment and Response to Office Action, and any documents referred to as attached therein are being deposited with the United States Postal Service as First Class Mail on this date, April 24, 2006, to the Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.

  
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